

CLAIMS

1) Door device for container, preferably of cylindrical shape, comprising at least one casing portion of curved or bent section, and an opening arranged in this portion, to be closed by said door device, which device is characterised in that it consists principally, on the one hand, of two rectilinear profiled elements (4 and 4') parallel to each other, fixed or formed on the external face of the casing on both sides of the opening (3) or in the region of the edges thereof and, on the other hand, of at least one element in the form of a plate (5, 5') having a curvature resembling that of the portion (2') of the casing (2) containing the opening (3) and comprising two opposite edges (6 and 6') each provided with a profiled longitudinal structure (7), of which the section permits retention or engagement in one of said profiled elements (4, 4') and allows continuous sliding therein, these profiled elements (4, 4') thus forming positive connection means and slide rails over the whole length for said element(s) (5, 5') in the form of a plate and guiding it (them) between a closed position of the opening (3) and a disengaged or released position thereof.

2) Door device according to claim 1, characterised in that the bent element or each bent element in the form of a plate (5, 5') can be at least slightly deformed under pressure and can have at least two states corresponding to two different radii of curvature, the greater of the two radii of curvature allowing a movement in translation of the element (5, 5') concerned and the smaller of the two radii of curvature allowing locking in position of said element (5, 5') concerned, the smaller of the two radii of curvature being at

least slightly greater than the radius of curvature of the portion (2') of the casing comprising the opening (3).

3) Door device according to any one of claims 1 and 2, characterised in that the or each element in the form of a plate (5, 5') is mounted without play and under tension in or on the profiled elements (4 and 4') forming slide rails, in such a way that a deformation of this element (5, 5'), causing an increase in its radius of curvature, is necessary to allow it to move by sliding, said element (5, 5') not being substantially deformed when the container is put under pressure.

4) Door device according to any one of claims 1 and 2, characterised in that the or each element in the form of a plate (5, 5') is mounted with play and free to slide in the profiled elements (4, 4') forming slide rails, the application of pressure to the container causing a deformation of said element(s) (5, 5') with a reduction of its radius of curvature and immobilisation in translation in relation to said profiled elements (4 and 4').

5) Door device according to any one of claims 1 to 4, characterised in that the connections between the profiled longitudinal structure (7) and the respective profiled element (4, 4') are configured in such a way that the resulting indentations between the edges of the opening (3) and the edges (6, 6') of the element(s) in the form of a plate (5, 5') opposite each other are not deep.

6) Door device according to any one of claims 2 to 5, characterised in that each sliding connection [profiled structure (7) / profiled element (4, 4')] consists of a solid

profiled or encased connection sliding in a hollow or enveloping profile provided with a longitudinal slot (4'').

7) Door device according to claim 6, characterised in that the solid profiles, formed in a single piece with the element
5 in the form of a plate or the casing or attached by welding, are in close surface contact with longitudinal portions (10, 10') of the internal faces of the walls of the hollow profiles extending on both sides of their respective longitudinal slots (4''), when the element in the form of a
10 plate (5, 5') concerned has its smallest radius of curvature.

8) Door device according to claim 6 or 7, characterised in that the profiled elements (4 and 4') consist of hollow profiles each comprising a longitudinal opening in the form of a slot (4'') and are attached directly on the external
15 face of the casing (2) of the container, being fixed for example by welding, and in that the parallel profiled structures (7) consist of thickenings of the edges (6, 6') of each element (5) in the form of a plate.

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9) Door device according to claim 6 or 7, characterised in that the profiled elements (4, 4') consist of thickenings or solid profiles attached or formed in the region of the opposed edges of the opening (3) and in that the parallel
25 profiled structures (7) consist of hollow profiles each comprising a longitudinal slot-shaped opening (4'') formed or attached on the respective edges (6, 6').

10) Door device according to any one of claims 1 to 5, characterised in that the profiled elements (4, 4') and the

profiled structures (7) in cross-section have sections in the form of hooks, able to engage with each other, one of the hooks delimiting a groove (16) which receives the end of the other hook, optionally provided with a thickening (17).

5 11) Door device according to any one of claims 1 to 10, characterised in that each profiled element (4, 4') is connected to the casing (2) by a longitudinal connection element (8), such as for example a band or elongated plate, and optionally by at least one stress absorption part (9),
10 extending in a plane substantially perpendicular to the longitudinal direction of the profiled element in question (4, 4') and connected to the casing (2) on a portion of its perimeter.

12) Door device according to claim 3 and any one of claims 5
15 to 11, characterised in that each element in the form of a plate (5, 5') carries on its external face a controlled curvature deformation device (11), of which the action on said element (5, 5') causes a gap at its two opposed parallel edges (6 and 6').

20 13) Door device according to claim 12, characterised in that the deformation device (11) comprises a support component (12) that can be moved perpendicular to a plane tangential to the bent element (5, 5') in the form of a plate concerned and mounted in a support and guiding structure (13) applied
25 against said element (5, 5') in the form of a plate by symmetrical stress absorption elements (13), fixed on the element concerned (5, 5') close to its opposed parallel lateral edges (6 and 6'), the support component (12) being integral with an operating component (12') that also allows a
30 sliding movement of the element (5, 5') concerned.

14) Door device according to any one of claims 1 to 13,
characterised in that the container has a cylindrical
5 structure of circular section, in that its casing (2) and the
bent element(s) (5, 5') in the form of a plate are produced
in sheet metal, preferably in stainless steel sheet metal and
in that the opening (3) is substantially rectangular in
shape.

10 15) Door device according to any one of claims 1 to 14,
characterised in that it comprises a single element (5) in
the form of a plate produced in a single piece.

16) Door device according to any one of claims 1 to 14,
characterised in that it comprises a single element (5) in
15 the form of a plate, consisting of several adjacent portions
made of sheet metal connected to each other by flexible
connections (14), which are preferably sealed, for example in
the form of portions of bands in a flexible synthetic
material.

20 17) Door device according to any one of claims 1 to 14,
characterised in that it comprises two elements (5 and 5') in
the form of independent bent plates, of which the mutually
adjacent edges in the closed position of the opening (3)
optionally comprise sealing devices, optionally mutually
25 cooperating sealing devices.

18) Container, particularly a pneumatic press tank,
characterised in that it comprises a door device (1)
according to any one of claims 1 to 17.

19) Container according to claim 18, characterised in that the profiled elements (4, 4') are arranged recessed in relation to the opposite edges of the casing (2) defining in part the opening (3), the face of the edges (6, 6') of the element(s) in the form of a plate (5, 5') situated opposite the casing portion (2') being provided with a packing (15), preferably inflatable, extending over the whole perimeter of the element (5, 5') concerned.

20) Container according to claim 18, characterised in that the profiled elements (4, 4') are arranged recessed in relation to the opposite edges of the casing (2) defining in part the opening (3), the casing portion (2') containing said opening (3) being provided with a packing, preferably inflatable, extending round said opening (3).

21) Container according to claim 19, characterised in that when the door device (1) consists of two elements in the form of a plate (5 and 5'), the opening (3) is provided with a middle rail (18), for example with a T section, providing support surfaces (19) for the adjacent sealing devices in the closed position of the elements (5 and 5'), for example in the form of portions of inflatable packings (15).